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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/512,061	10/21/2004	Haitao Tang	47092.00101	8579

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EXAMINER	
BRANDT, CHRISTOPHER M	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
08/12/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/512,061	TANG ET AL.	
	Examiner	Art Unit	
	CHRISTOPHER M. BRANDT	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Action is in response to applicant's amendment/arguments submitted on June 14, 2010. **Claims 25-68** are still currently pending in the present application.

Response to Arguments

Applicant's arguments with respect to claims 25-68 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 25, 28-40, 42-44, and 46-47 are rejected under 35 USC 103(a) as being anticipated by **Cidon et al. (Control Mechanisms for High Speed Networks, hereinafter Cidon)** in view of **Riddle (US Patent 4,466,060)** and further in view of **Fredette et al. (US Patent 6,987,727 B2, hereinafter Fredette)**.

Consider **claim 25 (and similarly applied to claims 49 and 50)**. Cidon discloses a method comprising:

detecting a network parameter change in a network node of a transmission network (305.1.5 lines 37-42, read as the nodes execute a distributed tree maintenance protocol in order to construct this tree and maintain topology changes);

determining based on topology information of a radio access network, a spanning tree of routing paths corresponding to shortest paths from the network node to other nodes (301.1.5 lines 1-13, read as in the topology data base, it is possible to estimate the expected packet loss which is the primary parameter in determining acceptability of a link. Among the subset of acceptable links, a minimum hop path is chosen); and

distributing network parameter information indicating said network parameter change from said network node to said other nodes in accordance with said spanning tree (301.1.5 lines 42-46, read as when a node wishes to broadcast a topology update message, it gives it the right header and transmits it all its neighbors on the topology spanning tree),

wherein said network node is configured to update, for each of its offspring nodes, a respective updating information and to send said respective updating information to all offspring nodes (301.1.5 lines 48-50, read as every node will receive every message once, over one of its tree links. Therefore, the updating information was generated in order for the node to send the message).

Although, Cidon disclosed the claimed invention, he failed to explicitly state the generation of updating information and wherein the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure.

However, Riddle teaches the generation of updating information and wherein the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure (column 3 lines 33-56, read as different information is transmitted to each neighbor node. The transmitted routing information arranges the nodes of the network in a hierarchical fashion that takes on the graphical form of a tree structure with the transmitting node at the root of the tree and the remaining nodes descending from the root).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Riddle into the invention of Cidon in order to reduce interference within the network.

In addition, Cidon and Riddle fail to teach distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes.

However, Fredette teaches distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes (column 5 lines 13-35, read as a network node using a link-state algorithm (also called a topology broadcast algorithm) must know the topology of the entire network (or at least receive such information) in order to compute the shortest path to each network destination).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Fredette into the invention of Cidon and Riddle in order to reduce valuable network bandwidth, while also reducing lost data due to failed links.

Consider **claim 42 (and similarly applied to claim 51)**. Cidon discloses an apparatus, comprising:

at least one memory including computer program code; and at least one processor, wherein the at least one memory and computer program product configured to with the at least one processor, cause the apparatus to at least detect a change in a network parameter related to said apparatus; distribute a network parameter information to network nodes of a transmission network (301.1.1., lines 1-31, 305.1.5 lines 37-42, 301.1.5 lines 42-46, read as dedicated high speed hardware using software, where processing and storing occur, the nodes execute a distributed tree maintenance protocol in order to construct this tree and maintain topology changes); wherein the network parameter information is configured to indicate the change in said network parameter to said network nodes in response to said detection (301.1.5 lines 1-13, read as in the topology data base, it is possible to estimate the expected packet loss which is the primary parameter in determining acceptability of a link. Among the subset of acceptable links, a minimum hop path is chosen. When a node wishes to broadcast a topology update message, it

gives it the right header and transmits it all its neighbors on the topology spanning tree), wherein said apparatus is configured to update for each of its offspring nodes a respective updating information; and a transmitter to send said respective updating information to all offspring nodes (301.1.5 lines 48-50, read as every node will receive every message once, over one of its tree links, and will forward it to the other tree links. Therefore, the updating information was generated in order for the nodes to send and receive the message).

Although, Cidon disclosed the claimed invention, he failed to explicitly state generate updating information and wherein the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure.

However, Riddle teaches generate updating information and wherein the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure (column 3 lines 33-56, read as different information is transmitted to each neighbor node. The transmitted routing information arranges the nodes of the network in a hierarchical fashion that takes on the graphical form of a tree structure with the transmitting node at the root of the tree and the remaining nodes descending from the root).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Riddle into the invention of Cidon in order to reduce interference within the network.

In addition, Cidon and Riddle fail to teach distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes.

However, Fredette teaches distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes (column 5 lines 13-35, read as a network node using a link-state algorithm (also called a topology broadcast algorithm) must know the topology of the entire network (or at least receive such information) in order to compute the shortest path to each network destination).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Fredette into the invention of Cidon and Riddle in order to reduce valuable network bandwidth, while also reducing lost data due to failed links.

Consider **claim 46 (and similarly applied to claim 52)**. Cidon discloses an apparatus, comprising:

at least one memory including computer program code; and at least one processor, wherein the at least one memory and computer program code are configured to, with the at least one processor, cause the apparatus at least to distribute a network parameter information to network nodes of a radio access network; receive a network parameter information from an upper node, to update a stored parameter information according to said received network parameter information, distributes said network parameter information to offspring network nodes of the apparatus based on updating information included in said network parameter information, said update information being derived from a spanning tree routing topology; and update said update information in said network parameter information before distributing said network parameter information to said other nodes (301.1.1., lines 1-31, 301.1.5 lines 37-50, read as dedicated high speed hardware using software, where processing and storing occur, the node executes a distributed tree maintenance protocol in order to construct this tree and maintain

it despite topology changes in the network. When a node wishes to broadcast a topology update message, it gives it the right header and transmits it all its neighbors on the topology spanning tree. If a broadcast packet arrives over a tree link, it is forwarded over the other tree links. Every node will receive every message once, over one of its tree links, and will forward it to the other tree links).

Cidon discloses the claimed invention except he fails to disclose branching information and wherein the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure.

However, Riddle teaches wherein branching information and the respective updating information sent to the immediate offspring nodes differs for each of the immediate offspring nodes based on the spanning tree structure (column 3 lines 33-56, read as different information is transmitted to each neighbor node. The transmitted routing information arranges the nodes of the network in a hierarchical fashion that takes on the graphical form of a tree structure with the transmitting node at the root of the tree and the remaining nodes descending from the root).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Riddle into the invention of Cidon and Riddle in order to reduce interference within the network.

In addition, Cidon and Riddle fail to teach distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes.

However, Fredette teaches distributing in accordance with a spanning tree of routing paths corresponding to shortest paths from said apparatus to ***all*** other network nodes (column 5 lines 13-35, read as a network node using a link-state algorithm (also called a topology broadcast

algorithm) must know the topology of the entire network (or at least receive such information) in order to compute the shortest path to each network destination).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Fredette into the invention of Cidon and Riddle in order to reduce valuable network bandwidth, while also reducing lost data due to failed links.

Consider **claim 28 and as applied to claim 25 (and similarly applied to claim 55)**. Cidon and Riddle disclose wherein said network parameter information relates to a QoS-related parameter (301.1.1, column 1 lines 36-40).

Consider **claim 29 and as applied to claim 28 (and similarly applied to claim 56)**. Cidon and Riddle disclose wherein said network parameter information comprises at least one of a link state, a link utilization, a node utilization, and a macro diversity combining load (301.1.5 column 1 lines 1-13).

Consider **claim 30 and as applied to claim 25 (and similarly applied to claim 57)**. Cidon and Riddle further disclose of deriving said topology information from at least one routing table (301.1.3 column 2 lines 30-37).

Consider **claim 31 and as applied to claim 30 (and similarly applied to claim 58)**. Cidon and Riddle disclose wherein one routing table is provided for each network node (301.1.3 column 2 lines 30-37).

Consider **claim 32 and as applied to claim 31 (and similarly applied to claim 59)**. Cidon and Riddle disclose wherein said one routing table provides a branch information for each

of the immediate offspring nodes of said network node (Riddle; column 9 line 39 – column 10 line 12).

Consider **claim 33 and as applied to claim 32 (and similarly applied to claim 60)**. Cidon and Riddle disclose wherein said branch information indicates branches of the concerned immediate offspring node (Riddle; column 9 line 39 – column 10 line 12).

Consider **claim 34 and as applied to claim 25 (and similarly applied to claim 61)**. Cidon and Riddle further disclose of deriving said topology information from a link state database of a routing protocol of said transmission network (301.1.3 column 2 lines 30-37).

Consider **claim 35 and as applied to claim 25 (and similarly applied to claim 62)**. Cidon and Riddle further disclose of obtaining said topology information by running a flooding scheme and a shortest-path-first algorithm (301.1.5 column 1 lines 1-35).

Consider **claim 36 and as applied to claim 25 (and similarly applied to claim 63)**. Cidon and Riddle further disclose of deciding on those parameters to be included in said network parameter information based on said topology information (301.1.3 column 2 lines 37-56).

Consider **claim 37 and as applied to claim 25 (and similarly applied to claim 64)**. Cidon and Riddle disclose wherein said network parameter information comprises said updating information sent to each of the immediate offspring nodes (301.1.3 column 2 lines 37-56).

Consider **claim 38 and as applied to claim 37 (and similarly applied to claim 65)**. Cidon and Riddle disclose wherein said updating information comprises a branch information, a

parameter update information and a node identification of the network node at which said network parameter change has occurred (Riddle; column 9 line 39 – column 10 line 12).

Consider **claim 39 and as applied to claim 37 (and similarly applied to claim 66)**. Cidon and Riddle disclose further comprising distributing a received updating information from the immediate offspring nodes of said network node to an immediate offspring node of said immediate offspring nodes based on said branch information (Riddle; column 9 line 39 – column 10 line 12).

Consider **claim 40 and as applied to claim 37 (and similarly applied to claim 67)**. Cidon and Riddle disclose further comprising updating a parameter information stored at said immediate offspring nodes using said updating information (Riddle; column 9 line 39 – column 10 line 12).

Consider **claim 43 and as applied to claim 42**. Cidon and Riddle disclose wherein said spanning tree is derived from a topology information of said transmission network (301.1.3 column 2 lines 30-37).

Consider **claim 44 and as applied to claim 43**. Cidon and Riddle disclose wherein said network is configured to decide on those parameters to be included in said network parameter information based on said topology information (301.1.3 column 2 lines 37-56).

Consider **claim 47 and as applied to claim 46**. Cidon and Riddle disclose wherein said network nodes are immediate offspring nodes of said network node (Riddle; column 9 line 39 – column 10 line 12).

Claims 26-27, 41, 45, 48, 53, 54, and 68 are rejected under 35 USC 103(a) as being anticipated by **Cidon et al. (Control Mechanisms for High Speed Networks, hereinafter Cidon)** in view of **Riddle (US Patent 4,466,060)** in view of **Fredette et al. (US Patent 6,987,727 B2, hereinafter Fredette)** and further in view of **Neumiller et al. (WO 00/70782, hereinafter Neumiller)**.

Consider **claim 26 and as applied to claim 25 (and similarly applied to claim 53)**. Cidon, Riddle, and Fredette disclose the claimed invention except wherein said network parameter information is used in a network operation and management procedure in a radio access network.

However, Neumiller discloses wherein said network parameter information is used in a network operation and management procedure in a radio access network (page 1 line 13 – page 2 line 10, read as wireless communication systems).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Neumiller into the invention of Cidon, Riddle, and Fredette in order to simultaneously handle a call by two different base stations if a remote unit moves within a particular area (page 1 lines 13-33).

Consider **claim 27 and as applied to claim 26 (and similarly applied to claim 54)**. Cidon, Riddle, and Neumiller disclose wherein said network operation and management procedure is a macro diversity combining MDC point selection procedure (page 9 line 34 – page 10 line 28).

Consider **claim 41 and as applied to claim 25 (and similarly applied to claim 68)**. Cidon, Riddle, and Fredette disclose the claimed invention except wherein said transmission network is a radio access network based on internet protocol technology.

However, Neumiller discloses wherein said transmission network is a radio access network based on internet protocol technology (page 6 lines 12-26, read as all frames transmitted to switch is done so via a packet protocol such as Internet Protocol (IP).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Neumiller into the invention of Cidon, Riddle, and Fredette in order to allow for the delivery of significantly more content and functionality.

Consider **claims 45 and 48 and as applied to claims 42 and 46**. Cidon, Riddle, and Fredette disclose the claimed invention but fail to teach wherein said network node is a base station device of a radio access network.

However, Neumiller discloses wherein said network node is a base station device of a radio access network (page 1 line 13 – page 2 line 10, read as wireless communication systems).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Neumiller into the invention of Cidon, Riddle, and Fredette in order to simultaneously handle a call by two different base stations if a remote unit moves within a particular area (page 1 lines 13-33).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to:**

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Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Brandt whose telephone number is (571) 270-1098. The examiner can normally be reached on 7:30a.m. to 5p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Christopher M Brandt/
Examiner, Art Unit 2617
August 8, 2010

/George Eng/
Supervisory Patent Examiner, Art Unit 2617